PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2017-11-22-01** **Date: 25-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-11-17
Sample ID No	:	2017-11-22-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	22-11-17

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.3	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.0		
Strength	Aggregate Impact Value	22.2	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.61	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.25	Maximum 2%	IS:2386 Part III

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W3

AE-03

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quallity Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-11-22-01**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore. **Date: 24-11-17**
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-11-17
Sample ID No	:	2017-11-22-01/01
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	22-11-17
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	87	87	1.7	98.3	90-100
9.5	703	790	15.8	84.2	70-88
4.75	902	1692	33.8	66.2	53-71
2.36	581	2273	45.5	54.5	42-58
1.18	487	2760	55.2	44.8	34-48
0.6	503	3263	65.3	34.7	26-38
0.3	531	3794	75.9	24.1	18-28
0.15	459	4253	85.1	14.9	12-20
0.075	347	4600	92.0	8.0	4-10
PAN	400	5000	100	0.0	0

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W3

AE-03

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	CP-RW-2017-11-22-01
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore. **Date: 25-11-17**
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-11-17
Sample ID No	:	2017-11-22-01/01
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	22-11-17

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	97.0	3.0	97.7	Minimum Retained Coating 95%
2	98.0	2.0		
3	98.0	2.0		

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W3

AE-03

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-11-22-01** **Date: 25-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	22-11-17
Sample ID No	:	2017-11-22-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	22-11-17

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.18	11.23	10KN(min)
2	Marshal flow at 60°C, mm	3.51	3.47	2-4
3	Percent air Voids	3.89	4.09	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.29	14.21	13-15
5	Percent Voids filled with Bitumen(VFB %)	72.21	71.69	65-75
6	Density, g/cc	2.24	2.26	–

Note:-
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid.
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W3

AE-02

CIVIL Pro Sig Date BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2017-12-04-05 **Date: 06-12-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Date of Receipt	:	04-12-17
Sample ID No	:	2017-12-04-05/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	04-12-17

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	505	505
2	Weight of the sample After extraction	B	478.5	478
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	5.25	5.35
4	Average percentage	%	5.3	

AE W3

AE-03

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2017-12-04-05

Sample ID : 2017-12-04-05/01 **Date: 06-12-17**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 478.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	65	77	16.1	83.9	70-88
4.75	123	200	41.8	58.2	53-71
2.36	58	258	53.9	46.1	42-58
1.18	29	287	60.0	40.0	34-48
0.6	57	344	71.9	28.1	26-38
0.3	28	372	77.7	22.3	18-28
0.15	41	413	86.3	13.7	12-20
0.075	26	439	91.7	8.3	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 478

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	68	78	16.3	83.7	70-88
4.75	127	205	42.9	57.1	53-71
2.36	58	263	55.0	45.0	42-58
1.18	31	294	61.5	38.5	34-48
0.6	51	345	72.2	27.8	26-38
0.3	26	371	77.6	22.4	18-28
0.15	38	409	85.6	14.4	12-20
0.075	30	439	91.8	8.2	4-10

AE AE W3

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE-03

CIVIL PRO Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-11-16-01** **Date: 18-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-11-17
Sample ID No	:	2017-11-16-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	16-11-17

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	13.5%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.4%	
Combined Flakiness and Elongation Index for WMM	25.9%	

Note:-
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid.
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W3

AE-07

FOR CIVIL Pro.

CIVIL Pro Sig..... Date..... BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-2017-11-16-01** **Date: 18-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-11-17
Sample ID No	:	2017-11-16-01/01
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	17-11-17

Test Results

Sl.no	Name of Test	Result	Requirements as per
1	Penetration at 25°C , in 1/10th mm	62	60 to 70
2	Softening Point, °C	49.8	Min. 40°C
3	Ductility, cm	94	Min. 75cm
4	Flash point, °C	231	Min. 220°C
	Fire point, °C	244	

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE IN 3

AE-02

FOR CIVIL Pro.

CIVIL Pro Sig Date BANGALORE

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	CP-RW-2017-11-16-01 **Date: 18-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-11-17
Sample ID No	:	2017-11-16-01/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	16-11-17
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	326	326	3.0	97.0	95-100
22.4	2268	2594	23.6	76.4	60-80
11.2	2175	4769	43.4	56.6	40-60
4.75	2263	7032	63.9	36.1	25-40
2.36	1386	8418	76.5	23.5	15-30
0.6	1602	10020	91.1	8.9	8-22
0.075	850	10870	98.8	1.2	0-5

Note:-

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid.
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AEW3

AE-03

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R-KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL|
GEO TECHNICAL| PROJECT MANAGEMENT| SURVEYING SERVICES |

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2017-11-16-01** **Date: 18-11-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town Sub division, BBMP, Bangalore.
Project Name	:	Change of place for improvements to roads and drains at Muneshwaranagara 6th cross and attached roads in Attur Ward no.03
Agency	:	Sri. H.S. Palahshamurthy, No.1, 2nd main B. D. A layout, Pattegere, Palaya, Near Prashanthnagara, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/WO/78/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-11-17
Sample ID No	:	2017-11-16-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	16-11-17

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	305.0	305.0
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	230.7	230.6
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.2	24.3
6	Aggregate impact value (Mean of two tests)	Pecentage	24.2	

Note:-

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid.
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W2

AE-03

CIVIL PRO Sig Date BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
End of Report